IN THE CLAIMS:

1. (Currently Amended) A method for predistorting an input signal, comprising:

predistorting said input signal based on one or more static coefficients representative of a non-linear distortion characteristic of an amplifier; and

processing said input signal based on a non-linear gain parameter that reduces an error metric between said input signal and a feedback signal following said amplifier, wherein said non-linear gain parameter is adapted when said input voltage is above a threshold input voltage.

2. (Cancelled).

3. (Original) The method of claim 2, wherein said threshold input voltage identifies a compression zone.

4. (Original) The method of claim 1, wherein said nonlinear gain parameter adapts an amount of nonlinearity introduced by said predistorting step.

5. (Original) The method of claim 1, wherein said error metric comprises a squared difference between said input signal and said feedback signal following said amplifier.

6. (Original) The method of claim 1, further comprising the step of processing said input signal based on a feedback gain parameter.

7. (Original) The method of claim 6, wherein said feedback gain parameter compensates for a small-signal gain of a feedback loop that generates said feedback signal.

8. (Original) The method of claim 6, wherein said small-signal gain is approximately unity.

9. (Original) The method of claim 6, wherein said small-signal gain is a difference between said input signal and said feedback signal.

10. (Original) The method of claim 1, further comprising the step of applying said predistorted signal to said amplifier.

11. (Original) The method of claim 1, wherein said step of processing said input signal further comprises the step of multiplying said input signal by said non-linear gain parameter.

12. (Original) The method of claim 11, wherein said step of processing said input signal further comprises the step of dividing said input signal by said non-linear gain parameter.

13. (Original) The method of claim 1, wherein said non-linear distortion characteristic comprises an AM/AM characteristic.

14. (Original) The method of claim 1, wherein said non-linear distortion characteristic comprises an AM/PM characteristic.

15. (Original) The method of claim 1, further comprising the step of digitizing said input signal prior to said predistorting step.

16. (Currently Amended) A predistorter that processes an input signal, comprising:

means for predistorting said input signal based on one or more static coefficients representative of a non-linear distortion characteristic of an amplifier; and

means for processing said input signal based on a non-linear gain parameter that reduces an error metric between said input signal and a feedback signal following said amplifier,

wherein said nonlinear gain parameter adapts an amount of nonlinearity introduced by said predistorter.

17. (Original) The predistorter of claim 16, wherein said means for processing step is only performed when said input voltage is above a threshold input voltage.

18. (Cancelled).

19. (Original) The predistorter of claim 16, wherein said error metric is a squared difference between said input signal and said feedback signal following said amplifier.

20. (Original) The predistorter of claim 16, further comprising the step of processing said input signal based on a feedback gain parameter that compensates for a small-signal gain of a feedback loop that generates said feedback signal.

21. (Original) The predistorter of claim 16, further comprising a multiplier for multiplying said input signal by said non-linear gain parameter.

22. (Original) The predistorter of claim 21, further comprising a divider for dividing said input signal by said non-linear gain parameter.

23. (Original) The predistorter of claim 16, wherein said static coefficients are implemented using a look-up table.

24. (Original) The predistorter of claim 16, wherein said static coefficients are implemented using one or more multipliers.

25. (Currently Amended) An integrated circuit, comprising:

a predistorter that processes an input signal based on one or more static coefficients representative of a non-linear distortion characteristic of an amplifier and a non-linear gain parameter that reduces an error metric between said input signal and a feedback signal following said amplifier, wherein said nonlinear gain parameter adapts an amount of nonlinearity introduced by said predistorter; and

an adaptive circuit that adjusts said non-linear gain parameter based on said error metric.